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6C4	12/6	12SQ7	10/-
6C6	7/6	12SR7	10/-
6C8	10/-	807	10/-
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6F6	10/-	813	60/-
6F8	10/-	815	50/-
6G6	10/-	832	50/-
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6J5GT	10/-	956	10/-
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A.W.A. Artificial Aerial Boxes, contain two
155 pF. variable condensers 2000 v.p., two
Oak switches and Resistors, also five high
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16 1/2"; weight 23 lbs. Few only, to clear 45/-

English Carbon Mike Transformers, new, 5/-

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7145 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7145 Kc., 51.015 and 146.35 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3550 and 14342 Kc. 3550 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7145 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0630 hours WAST, on 7145 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7145 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

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EDITORIAL



ARE CONVENTIONS NECESSARY?

Usually at this time of the year Federal Executive and your Federal Councillors are busy preparing the Agenda for the Convention, which in the past has been held at Easter each year.

Federal Council in its wisdom decided at the 1953 Convention that a Convention would not be held in 1954, unless urgent or important matters warranted a change of plans. The reasons being the high cost, lack of important items and the closer liaison now existing between the Federal Councillors and the Federal Executive.

Your Federal Executive has faithfully carried out the policy laid down at the 1953 Convention and in addition has found time to work on a number of projects which include bringing to fruition the plans to produce an Australian Amateur Call Book.

Certainly, Conventions are necessary. They table the problems of the Divisions to be aired in an atmosphere that overcomes the difficulty experienced in interpreting the written word; however, there is no doubt

that the present method of inter-changing ideas on paper as the problems arise clears the deck so that when a Convention is held the Delegates will have only a limited number of contentious items to consider. Thus enabling them to give full consideration to each item instead of having to rush in order to accommodate all the minor items and "evergreens" included in past Agendas.

Conventions are also necessary when major changes in policy are contemplated.

Your Federal Councillor has a very important task—keep him fully informed of your local problems; make him work all the year round; do not assume that he only comes to life when a Convention is held.

Unity in strength. Maintain the integrity and stability of your Institute by supporting the Federal Council, thereby ensuring that the Amateurs' cause and achievements receive the fullest recognition from both authorities and public alike.

FEDERAL EXECUTIVE.

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3-6B4	2-2X2
1-5U4	1-6SJ7
1-6SN7	1-6SA7
1-6SL7	

Many other useful parts.

£27/10/-

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Containing the following Valves:—

1-5GP1 cathode ray tube with full length mu-metal shield.
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15-6S7
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1-6J7

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SELENIUM RECTIFIERS

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VALVES

Brand new in original Carton

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1K7	10/6
6AC7	15/-
6B8	15/-
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6K6G	12/6
6L7	12/6
807	25/-
813	60/-
830B	60/-
VR150/30	22/6
954	7/11
12A6	12/6

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

The above valves are only obtainable from Melbourne Branch.

MAGNAVOX

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U.H.F. MIDGET HOMING RECEIVERS

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Type TU26B	200 to 500 Kc., £2/10/-
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TRANSCEIVERS TYPE ATR/2B

Crystal controlled, 12 watt output 3-7 Mc. All standard Valves. Complete with crystal. Air tested. 12 volt operation. Can be converted to other frequencies. Crystal controlled or M.O. tuning.

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RELAYS

200 ohm resistance, one make, operating on 12v., new	15/- each
75 ohm resistance, two make, two break circuit, operating on 12v.	16/6 each
1500 ohm resistance, one make circuit, very sensitive, operating on 4½v.	£1/10/- each

RADAR RECEIVER American, Type C-PR46AAT

Containing Valves:—

1-955	1-6AG7
3-956	1-83V
4-6AC7	1-2X2

and 24v. switching motor.

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SYNCHRONISER UNITS Type 1155

Containing following Valves:

6-6SN7	1-6H6
3-6L7	2-6AC7
2-6AG7	6-717A
2-6L6	

Brand new, £12/10/-

A.W.A. TRANSMITTING CONDENSERS

25 pF. to 375 pF.

22/6

TRANSMITTERS TYPE G09

VFO control. Freq. 3-18 Mc., 300-600 Kc. All switches and condensers, coils and valve sockets are mounted in porcelain. All controls can be locked. Two RF output meters 0-9 amp.; two 0-100 Ma. meters for quick current reading, and one 0-15 Ma. meter. Unit relay controlled. Power output 100 watts. New.

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801—Master Oscillator.
807—Intermediate Amp.
803—Power Amplifier.
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837—Intermediate Amp. or
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803—Power Amplifier.

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Two 1616—High volt. Rec.

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MARCONI RADIO TRANS- MITTERS—TYPE 1154

For use with 1155 Receiver. Frequency ranges:—
Range 1 (H.F.): 10-5.5 Mc.
Range 2 (H.F.): 5.5-3.0 Mc.
Range 3 (H.F.): 500-200 Kc.

High Power Transmitters
200 watts input. VFO 200 Kc. to 10 Mc. Complete with valves. Power required: 1,200v. 200 Ma.; 250v. 50 Ma.; 6.3v. 6 amp. Easily converted to crystal control. Ideal for ships, fire control base stations, amateurs, etc.

£12/10/-

BENDIX RADIO COMPASS RECEIVERS, Type MN26H

12v. input. Frequency ranges 200 to 410 Kc., 550 to 1200 Kc., and 2.9 to 6 Mc. Complete with 12 valves and genemotor. Valve line-up:

2-6N7	1-6B8
1-6F6	1-6L7
2-6J5	5-6K7

£24/17/6

AT5/AR8 TRANSCIEVERS

AR8 RECEIVER

11 valve twin channel Receiver, using standard 6.3v. octal valves. Six bands. Complete coverage 140 Kc. to 20 Mc. Dial calibrated for all bands.

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A high power unit using two 807s in final. Covering 140 Kc. to 20 Mc. with provision for six crystals and V.F.O.

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Junction Box and Cables, £5. Aerial Coupling Unit, £3/10/-.

MARCONI COMMUNICA- TION RECEIVERS—Type 1155

10 Valves, five bands. Range 1 freq.: 18.5-7.5 Mc.; range 2 freq.: 7.5-3 Mc.; range 3 freq.: 1500-600 Kc.; range 4 freq.: 500-250 Kc.; range 5 freq.: 200-75 Kc. Dual ratio dial calibrated for all bands. Easily converted to operate from 240v. A.C.

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PUBLIC ADDRESS LOUD SPEAKERS

Standard pole mounting, 8" Rola speaker, with 26 ohm magnet; double ended flares. Diameter 22", depth 18" either side.

£5/10/-

Available Melbourne only.

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION THREE

Final Tank Circuit

Panel: 19" x 6 Units
Chassis: 17" x 10" x 3"

The final tank circuit has been designed around the old standby—the 807. Other valve types can be used such as 804, 814, 813, and the usual run of pentodes. Do not use pentodes in push pull for a reason which will be expounded later in this script. For the purpose of simplicity, the author advises any newcomer to adhere to the 807.

The grid input is capacity coupled to the output of the multipliers. Protective bias is used, the bias being obtained by the voltage drop across the 20,000 ohm resistor. However, if the drive should fail, the cathode bias will be sufficient to hold the valve at a safe level and so avoid damaging the valve.

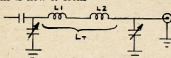
Between the plate of the 807 and the final tank coil, a small spurious harmonic filter is used.

The h.t. is shunt fed to the plate of the valve. This enables the gang and the coil to be at earth potential, thus eliminating extra care in isolating the gang condenser from the chassis.

The output circuit consists of a tank coil utilised as a pi network, the output of which can be coupled either direct to the antenna by means of co-axial feedings having an impedance in the vicinity of 75 ohms. Actually, 52 ohms cable or 70 ohms cable can be used.

The pi network substantially consists of two coils, the first coil being the coil for the operating frequency and which is tuned by the 65 pF. condenser. This condenser must have suitable voltage ratings—approximately 2½ times the input voltage to the plate.

The second half of the tank coil is really that portion which would act as a matching device to match the first portion to the aerial. This is then tuned with the broadcast gang as the voltage at this point is low. Essentially, this is how it looks—



However, this double coil is taken care of in the coil specifications. The coil has been tapped to permit ease of tuning from 80 metres through to 10 metres without coil changing. At the conclusion of this section, the formulae will be given so that pi network calculations may be made if you desire.

Two meters are included in the circuit, one indicating maximum grid drive and the other the plate milliamp. so that the resonant dip may be found.

Should a t.v. harmonic filter be decided to be incorporated, provision may be left for such a circumstance when the known t.v. channel will be made

available. Until then, the unit should be omitted.

You will notice that two fixed condensers have been incorporated in the tank circuit. This is to increase the capacity and thus improve the Q of the circuit when the 80 metre band is in operation.

Both the 0.002 uF. mica coupling condenser and the 150 pF. mica must be of high rating—in the vicinity of 2½ times the input voltage, but the 400 pF. need only be a p.t. type.

R.f. output is taken to a co-axial connector to enable a co-ax lead to be taken either direct to the aerial or to the aerial tuning unit.

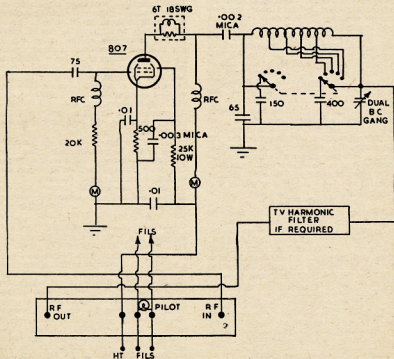
Wiring, as in all other chassis, should be strong and neat.

Reference was made in the introduction of this article to the fact that one band switch could be made possible. This can be achieved by coupling the switch on the final panel with a chain drive from the switch on the multiplier chassis. Layout in components would assist in this method. However, should this prove to be hard to manage, no great loss will be experienced in the simplicity of tuning.

The plate of the 807 is fed with approximately 500 volts which, at 100 Ma., will place your input at 50 watts—well within the allowable amount permissible by the P.M.G. Regulations.

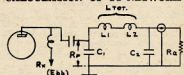
Coil Construction

Former: 2½" diameter; 38 turns 16 gauge enamel, 4" in length, tapped at



6t., 8t., 10t., and 25t. These taps may be varied according to the circuit requirements.

CALCULATION OF PI NETWORK



Note.—In above diagram "R2" should be "Rdc."

$$Rdc = \frac{Ebb}{Ib}$$

$$Rp = \frac{Rdc}{2}$$

$$XC1 = \frac{Rp}{Q}$$

$$XL1 = \frac{Rp}{Q}$$

$$XC2 = Ra \sqrt{\frac{Rp}{Ra(Q^2 + 1) - Rp}}$$

$$XL2 = \frac{Ra' \times C2}{Ra' + C2}$$

$$XL \text{ Tot.} = XL1 + XL2$$

$$Q = 15.$$

If it is desired to use plug-in coils in lieu of the pi network, any reference book will assist in their calculation.

* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer

PART ONE

INTRODUCTION

The designer of short wave receivers has mainly to deal with two problems—the sensitivity and selectivity. This article is a discussion of selectivity questions as far as Amateur Radio is concerned.

We so often hear words nowadays like Q5-cr, magnetostriction mechanical filter, crystal filter, single sideband reception, double and even triple conversion, that it doesn't look as if we would be in the position to build a "home brew" receiver which would enable us to compete in DX contests, or to get set from disposals which would be good and modern enough for our purposes. One of those 500 dollar receivers which seem to be ideal if the outstanding features as advertised are true, is also beyond most purses.

We will explain several points which are important, and make some proposals for the home-made receiver, showing that the Ham still can build his own receiver which may suit his job better than any other receiver he may be able to buy for a lot of money. He needs some technical know-how and a grid dip meter, but should have both any how.

T.R.F. Receiver

Looking 25 years back, we tried to fix the selectivity problem with a regenerative detector. It is true that we got quite good selectivity near the resonance frequency. We could receive a 1 μ V. signal well, but if a 10 μ V. signal was even 100 or more Kc. away, we had QRM because the response curve had only a sharp peak close to the resonance frequency, and the impedance of our tuned circuit was, even for very far off resonance frequencies, great enough to give the necessary amplification for a 60 to 80 db attenuated signal.

If the regeneration was not properly (critically) adjusted, we never got stable and satisfactory conditions. An r.f. amplifier stage did improve the far off resonance selectivity to a certain degree, but any tuned r.f. circuit suffered from the same effect just described. So a great number of tuned r.f. circuits would have been necessary, which was impractical.

Sharp Filters

We tried audio frequency tuned filters and resistance-capacity phase networks to improve the selectivity close to the resonance point, but these methods had the same drawbacks as the crystal filter with a single quartz has, because the bandwidth was too small (20 to 100 c/s) for phone reception, and for c.w.

All kinds of interference and noise also caused a loading of this low loss circuit and so even the shortest pulses of background noise and QRM appeared much longer than their actual pulse duration really was. The noise silencer method used in some receivers in front

of the high selective circuit was a help to a certain degree if the noise amplitude was sufficient to cut out the i.f. amplifier and if the tuned circuits before the limiter had a low Q, but usually they were not successful enough compared with the technical effort and the cost.

Image Selectivity Problem, Cross Talk, etc.

The superhet principle offers a convenient way to get any selectivity required. But this turned out to be not so simple as a new-comer might think at first. A highly selective i.f. amplifier can never do the selectivity job alone, so that we may not only receive the station our dial is tuned to. For example, even three good aligned high gain tuned r.f. circuits are not sharp enough on the 20 mc band to prevent local signals from overloading the first mixer stage even if they are about 100 Kc. apart from the receiving frequency. The mixer works no more in the linear range and we get cross talk, which the best i.f. or a.f. filter set-up can never prevent or cure. Harmonics of our own superhet receiver oscillator (not so-called subharmonics of the received transmitter) may be at the mixer grid as a result of insufficient shielding. So we can hear strong 20 mc stations, 40 and 80 mc too.

The response to image signals is another typical superhet trouble. Other signals than those tuned in may be at a frequency which is twice our i.f. value on the other side of the tuned r.f. as our local oscillator lies. If these signals pass the r.f. stages and have a chance to get on to the mixer grid, we will not be able to stop them from passing the best i.f. and a.f. amplifier, because they develop the same i.f. as the desired signal. All these typical superhet troubles gave those old-timers a certain right in saying that the old t.r.f. receiver was not so bad.

Before we blame radio stations for being in the 20 mc Amateur band, it is advisable to have a listen on the 19 mc broadcast band. If we do find this station also on its legal frequency, then we only get this QRM because our 455 Kc. i.f. and not good enough r.f. stages reproduced the image frequency, which shows our receiver is at fault.

We are often after 0.5 μ V. Amateur stations, and 1 Mc. or so higher we find radio stations with 50 mV. signals. To get not more than just the equal signal strength at our first mixer stage from the strong radio station compared with the weak Amateur signal which we have tuned in, the attenuation of the image frequency should be in the order of 100,000 or 100 db. So as not to hear the undesired signal, we need 60 db more image rejection. A rotary beam may often help, but it still looks hopeless if our "famous communication type receiver" promises on 14 Mc. 500, and

BY H. F. RUCKERT,* VK2AOU

on 28 Mc. only 50, as the image rejection ratio.

The single conversion superhet made by Telefunken 10 to 15 years ago, type E52 (Koeln) has an image rejection of 50,000 at 14 Mc. using five tuned r.f. circuits, and a 1 Mc. i.f. Many Ham receivers may show at about 29 Mc. the same station repeated again, which in fact is working at 28.1 Mc. So the simple superhet was not very satisfactory at solving one problem, but giving several new ones in its place.

At frequencies above 10 Mc. the selectivity and effectiveness of the r.f. stages are dependent on the input impedance of the valves used in these stages, but effectively by-passed cathode capacities, inductances, and high gm values are the reasons. Also we know that a mixer stage is producing about four times the noise the same valve would if used as a pentode amplifier. On the other hand the mixer pentode has about four times the input impedance compared with the same pentode used as an amplifier. Valves 6AC7 and EF50 represent only 7,000 ohm input impedance at 30 Mc., so we have to connect the grid to a tap of the coil of the tuned r.f. circuit so as not to lose more gain and selectivity and also to help the signal-to-noise ratio (sensitivity). With not enough gain and noise of its own in the r.f. stages, the mixer would then determine the total receiver noise and sensitivity. This would be absolutely wrong because a good receiver always allows us to hear the noise picked up by the antenna which is especially true at frequencies below 50 Mc.

The Multi Conversion Superhet

The next step forward in receiver design was then the double conversion superhet with two different i.f. frequencies. This method is still only used by a few commercially manufactured receivers, and these receivers are a very popular necessity at Amateur stations.

We can use any frequency as the first i.f. which is high enough to put the image frequency far away from the received frequency to be sure of sufficient image rejection. But this first i.f. should not be so high that we can't build good selective first i.f. amplifiers. This is a point which is too often overlooked. With a wide-band first i.f. at about 5 Mc. to 10 Mc., with less than six tuned circuits and a 50 Kc. second i.f., we will get more image frequencies in our receiver than with a simple single conversion superhet. If in this case a signal appears $2 \times 50 = 100$ Kc. apart from the point where the tuned in r.f. signal is, it will go easily through the first i.f. amplifier and first i.f. stages, so we can be sure now about the image signal mixed in the second mixer where we can never remove it. I.f. crystal filters or a.f. filters do not change these conditions.

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With harmonics of the two local receiver oscillators we can expect to get a lot more trouble and undesired signals than we had before if we don't select suitable i.f. and oscillator frequencies. We also should select a first i.f. where no commercial station works, and we should make the second oscillator adjustable to be able to tune commercial stations out if they still come through in one or the other way described above.

For the 85 to 105 Mc. high fidelity f.m. receivers, which are very popular in U.S.A. and Germany, 10.7 Mc. is a standard i.f. value. This frequency is also used by Hams for v.h.f. superhets. 2 to 5 Mc. may be a range where we can always find a suitable frequency for the first i.f.

The same thoughts indicate that we have to use triple conversion if we want to operate with a 35 to 100 Kc. Q5-er. First i.f. 3.2 Mc., second i.f. 455 Kc., and third i.f. 50 Kc. This is the way to overcome the image frequency problem, and we have to use more than three tuned circuits at all these i.f. ranges. If we have a.v.c. on this amplifier we must not use i.f. filter capacitors with less than 50 pF, so as not to detune the filter circuits too much by the grid-cathode capacity which varies by the movement of the space charge as a function of the a.v.c. voltage.

Stages of a Modern Communication Receiver

With this basic knowledge and experience, our image-frequency-free Ham superhet may have the following stages:

1. Two r.f. stages with low noise valves which also should have a high input impedance like the type 6AK5. Valves like acorn types or, on the other hand, a 6AC7, EF50, etc., only fulfill one of the two important requirements, that is why they are outmoded.

The gain of the r.f. amplifier must be so high that the receiver noise is only determined or limited by noise of the first r.f. valve mainly, and by the way of matching and coupling, plus tuning of the first tuned circuit and antenna. That also means that we can now use any number of frequency conversions we want for selectivity reasons without affecting the receiver noise figure or sensitivity, provided we do not operate stages regenerative (or nearly oscillating) or with more gain than is useful.

We must not have so much gain in any of the i.f. amplifiers that we hear the noise of the first or second mixer; this does not improve the sensitivity, but increases only noise and signal and is not nice to listen to. The same applies to excessive a.f. amplification.

So as not to affect the noise figure we should only use a.v.c. at the r.f. stage if S9 plus signals are coming in, which may cause cross talk or, on the other hand, if the mixer may be overloaded, and then one-third of the a.v.c. voltage applied to the r.f. stages may be enough to achieve the desired results.

The r.f. selectivity must be good enough not to let through 50 mV. signals on the image frequency of the first i.f. Three high Q, well shielded, and accurately aligned tuned r.f. circuits should do the job satisfactorily if each coil has an iron slug and a parallel ceramic disc-type trimmer with a positive temperature coefficient of capacity.

Other trimmers are usually not mechanically stable and climate proof enough.

2. The first mixer may have a separate oscillator and usually no a.v.c. for stability reasons. Too much a.v.c. at the front end reduces the mutual conductance of the valves, increases the valve noise and even strong signals may be received with a background noise of the receiver in this case. It is important to have the right oscillator voltage to get enough mixer gain and to operate this stage with not too much noise. Pentagrid converters may be used if the highest frequency is about 30 Mc. and two good r.f. stages are employed.

3. The first i.f. should be between 3 to 5 Mc. to help the rejection of second i.f. images. We need one amplifier stage in front of the second mixer and two filter groups of three to four tuned circuits each critically coupled and very well shielded so that the signals can't bypass them. These should give sufficient selectivity so as not to let through image frequencies of the second i.f. which will go easily through the r.f. tuned circuits.

The gain of this stage should be just as high as to compensate for the coupling losses in these filters. Shielding is more effective if we keep the signal low until we have highly selective circuits. A.v.c. should be used to 100% here as explained earlier (not too small filter capacitors).

4. The second mixer and oscillator may be designed similar to the first one. The oscillator frequency may be adjustable to set the dial at the correct value if necessary or to shift a few kilocycles if a station should appear on the first i.f. Care should be taken by selecting the right i.f. and oscillator frequencies, providing good shielding, and most importantly, operating the oscillator with a not-too-great harmonic output so that strong combination frequencies are not generated by the two oscillators, causing other image frequencies inside the receiver.

5. The second i.f. amplifier may have two valves with variable μ and not less than 9 (3 x 3), better 12 (3 x 4) tuned circuits. For c.w. reception, the circuits may be critically coupled and working on the same frequency whilst for phone reception, staggered tuning and closer coupling may be advisable to get the required bandwidth. The usual simple i.f. filters have neither the required selectivity, nor the desired flat top of the resonance curve.

There are three ways known now to achieve the requirements outlined:— (a) Q5-er, (b) mechanical electrostatic filter, or (c) the double crystal filter.

We will compare the three methods later and see which way is the most convenient for those of us who are going to build their own receiver for c.w. and phone reception. The well known single crystal filter is no longer the best answer to our c.w. reception problem as described earlier.

6. A 35 to 100 Kc. third i.f. amplifier, also called "Q5-er", is not much different as the amplifier just discussed. We need an additional third mixer and about two stages with another 3 x 3 or 4 x 4 i.f. tuned circuits. The signal amplitude is already so high that noise

questions are no longer to be considered. We also should keep in mind that the reduction of the bandwidth by a factor nine reduces the amplitude of the noise by a figure three. That means we can use now three times the amplification to get a stronger signal and the noise will not be higher than it has been before the reduction of the bandwidth. The other stages of the receiver have no influence on the sensitivity or selectivity, therefore we will not discuss these at the moment.

Correct Frequency Response Curve

In about two years we will come closer to the next maximum of sun spot activity and we can expect a vast increase of powerful phone stations, mainly as the result of more effective antennae. To be still among those who can enjoy our hobby, we must now build our receivers so that we have nearly the well known ideal rectangular shaped i.f. response curve.

It has already been mentioned that we require for c.w. only about 100 to 200 c/s bandwidth and not less, but a detuning from one of the response curve corners of about 1 to 2 Kc. should result in a signal attenuation of something like 80 db on both sides.

We know that our old filter with a single crystal cannot fulfil these requirements. The peak bandwidth will be too small so that the crystal probably will tend to ring and the maximum c.w. speed has to be reduced. Also the response curve may not be steep enough on one side. To reduce the trouble with QRM and to make it easier to have 100% phone contacts, we have only one alternative, that is to make the response curve of the receiver so that we receive the carrier close to one corner of the response peak and only one sideband. To change over from one to the other sideband to get away from interference, the curve should have a flat top—flat within 2 db for about 3 Kc.

This would allow a high quality phone transmission with only 3 Kc. bandwidth. The selectivity should be adjustable for phone reception down to 1 Kc. and for c.w. reception to about 200 c/s. The receiver gain should be constant so that a readjustment of the S meter and volume control may not be necessary when varying the bandwidth.

Most of the popular Q5-ers are also not very suitable to do this job. Their resonance curve may have quite sufficient steep skirts, but there is usually only one peak in the centre of the band-pass and no flat top. In this case, we still tune the station in according to the S meter reading, that means the carrier is in the centre and we have again double sideband reception with a twice wider receiving band for the same readability. The possibility of interference is much greater because we tune both sidebands in and we cannot choose one sideband which may have less QRM. If we reduce the bandwidth we will have difficulties in understanding the phone transmission, and we will lose the higher tones of the modulation a good DX modulation should contain. We cannot tune our oscillator on such a receiver so as to receive only one sideband because the carrier would be too much attenuated, probably 10 db down or more. The voice would then sound like that of a heavily overmodulated

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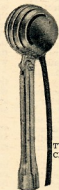


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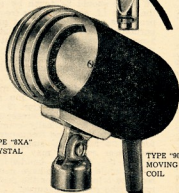


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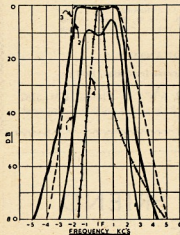
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transmitter. Even with a lot of tuned circuits and several valves, it is not easy to get near enough to the desired effect.

Special Method

An interesting but quite complicated and costly way out of this problem was described in "QST," March, 1953, p. 23. The third i.f. amplifier or Q5-er was divided in a carrier narrow band amplifier for c.w. only and an additional sideband (single sideband) channel. The sideband could be selected by changing the crystal oscillator. The sideband amplifier had a saddle of about 6 db and only 2 Kc. bandwidth. The combined bandwidth of both channels was about 3 Kc. for one sideband plus carrier. The graph shows the response curve of the sideband amplifier alone as curve No. 1.

Response Curves of Different
I.F. Amplifiers



1. Nine tuned circuits at 50 Kc. "QST," March, 1953. A.R.R.L. design, sideband channel.
2. Magnetostriction filter at 455 Kc. Collins 75A III. "QST," February, 1953.
3. Double crystal filter, 3.5 Kc. flat top at 352 Kc. i.f. Position wide, a.v.c. on.
4. Double crystal filter, 0.4 Kc. at 352 Kc. Position sharp, a.v.c. on.

This Q5-er, built by A.R.R.L., had the same skirt selectivity as the best commercially made receivers we know about. The disadvantages of this receiver type are that the bandwidth is not continuously variable. The carrier and sideband gain has to be adjusted separately, and similar difficulties occur with the a.v.c. Six i.f. amplifier valves and 20 tuned circuits at 50 Kc. had been used, which does not look like an easy way to solve our problem.

Many of us got a different opinion about what a good modern receiver should be able to do when Collins offered the mechanical magnetostriction filter. There was the rectangular response curve we had been looking for so long. The curve No. 2 of the graph shows the frequency response of the Collins mechanical filter, built in the 75A III. Amateur band receiver.

This double conversion superhet has a bandwidth of close to 3.1 Kc. at 455 Kc. second i.f. The receiver uses only a not-too-complicated double conversion superhet and not more than one additional valve to compensate the loss in gain the filter causes. But also, this filter does not allow us to vary the bandwidth unless we can plug in a 1 Kc. or 800 c.p.s. filter. This is not convenient, rather costly, and for us anyhow, out of the range to get or to build it at home.

Quartz crystal lattice filters are quite common in single sideband receivers and exciters. But how to get so many special crystals? And if we can obtain the required crystals, we will find soon that many recommended circuits have one or the other drawbacks we men-

tioned before. Usually the well known communications receivers do not use these methods.

(to be continued)

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1953 VK-ZL DX Contest Results

The extremely poor DX conditions due to low sunspot activity is reflected in the small number of logs received for this year's VK-ZL DX Contest. According to the experts, however, conditions should start to improve rapidly from now on and we can look forward to very much more activity for next year's Contest.

A lot of confusion still appears to exist, particularly among overseas stations as to the correct method of scoring and making out logs. Very few of the logs received—VK, ZL and overseas—were correctly filled in, the majority of stations not bothering to work out their scores. Had the committee stuck strictly to the rules and disqualified these entries, there would not have been enough left to make a Contest, so all logs submitted were completed and scores calculated. This necessitated a tremendous amount of work which should not be necessary.

Last year the top scorers in ZL and VK were within a few points of each other, but this year the ZL boys really worked hard and are to be congratulated on their magnificent effort. ZLIAH, the top scorer, operated for eighteen hours to make 272 contacts for 22,576 points in the c.w. section, an average of four minutes per contact—7, 14 and 21 Mc. bands being used. No contacts were recorded by any station on the 28 Mc. band.

AUSTRALIA

C.W. SECTION

Open—

Points	Points
VK2GW .. 9408	VK3PG .. 370
VK3XK .. 2952	VK4FJ .. 493
VK4RT .. 2794	VK3ANJ .. 360
VK5FO .. 1792	VK5WO .. 116
VK3AHH .. 999	VK2JY .. 40

7 Mc.—

Points	Points
VK2GW .. 954	VK3ANJ .. 180
VK4XJ .. 650	VK3AHH .. 104
VK3XK .. 224	VK2YC .. 72
VK5FO .. 198	

14 Mc.—

Points	Points
VK2GW .. 2511	VK5RX .. 253
VK2AHH .. 900	VK3AHH .. 221
VK3XK .. 882	VK3ANJ .. 180
VK3AZW .. 665	VK4SF .. 160
VK5FO .. 663	VK2ACN .. 112
VK3PG .. 320	VK3PL .. 15
VK2IC .. 275	

21 Mc.—

Points	Points
VK2GW .. 242	VK3PG .. 30
VK3XK .. 84	VK5FO .. 6
VK3AHH .. 42	

PHONE SECTION

Open—

Points	Points
VK4SF .. 925	

14 Mc.—

Points	Points
VK4KS .. 3510	VK5LC .. 351
VK5MS .. 1898	VK3XK .. 112
VK4SF .. 924	VK5WO .. 24
VK2AOU .. 405	

21 Mc.—	Points
VK4SF .. 1	

NEW ZEALAND

C.W. SECTION

Open—

Points	Points
ZLIAH .. 22576	ZL3JA .. 3421
ZLIMQ .. 10885	ZL3GQ .. 2880
ZL1BY .. 9786	ZL1HY .. 450
ZLIADX .. 7980	ZL1JA .. 374
ZLIAIX .. 6720	

3.5 Mc.—

Points	Points
ZL1BY .. 63	ZLIMQ .. 12

7 Mc.—

Points	Points
ZL2BJ .. 3168	ZL1ADX .. 403
ZL1BY .. 1992	ZL4JA .. 234
ZL3JA .. 825	ZL2IQ .. 209
ZLIMQ .. 490	

14 Mc.—

Points	Points
ZL1BY .. 6903	ZL4GA .. 1728
ZLIMQ .. 3040	ZL3CP .. 672
ZL3JA .. 2310	ZL4JA .. 140
ZL1ADX .. 2190	

21 Mc.—

Points	Points
ZL1BY .. 828	ZL1ADX .. 448
ZLIMQ .. 560	ZL3JA .. 286

PHONE SECTION

Open—

Points	Points
ZLIMQ .. 1800	ZL3GQ .. 12
ZLIAIX .. 1760	

7 Mc.—

Points	Points
ZLIMQ .. 16	

14 Mc.—

Points	Points
ZLIMQ .. 696	

21 Mc.—

Points	Points
ZLIMQ .. 144	

OVERSEAS

C.W. SECTION

North America

Points	Points
Open—	7 Mc. (Cont.)—
W6BYB .. 2025	W5TFD .. 341
W8JIN .. 924	W2EQS .. 40
W2WZ .. 799	W4ME .. 4
W6ATO .. 752	VE3ADM .. 288
W2ICE .. 24	W6NZW .. 273
W2CVW .. 9	VE7AEU .. 273
7 Mc.—	21 Mc.—
W6MUR .. 648	W5OLG .. 4

Europe

Points	Points
Open—	Open (Cont.)—
PA0UN .. 1116	DL3SZ .. 42
PA0VB .. 120	DL9RK .. 30
PJ2AJ .. 12	F9RM .. 48
SM5ANY .. 330	7 Mc.—
GI5RI .. 1292	DL9TJ .. 24
OK3MM .. 570	854AX .. 4
OK1MB .. 216	14 Mc.—
Y03RD .. 30	SM3AKM .. 306
Y03RF .. 20	SM5BGS .. 224
HE9RDX .. 171	SM7AVA .. 147
HB9MU .. 152	SM3HC .. 105
DL1DX .. 544	LA4KD .. 60
DL7AA .. 507	OH2MQ .. 216
DL1FE .. 288	OZ1PH .. 3
DL7BA .. 242	OH1PW .. 98
DL6FD .. 120	DL7EK .. 20
DL7DF .. 104	

Open—	Points	14 Mc. (Cont.)—	Points
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JA1CR .. 385	JA2AB .. 160
VS2DQ .. 432	JA1CJ .. 150
14 Mc.—	JA2AB .. 140
VS1CZ .. 460	JA1DM .. 84
JA3EB .. 430	JA1AL .. 78
JA8AA .. 380	JA1KF .. 4
JA2WB .. 232	21 Mc.—
JA1FA .. 232	JA1DM .. 102
	JA1CO .. 54

South Africa

Open—	Points
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ZS1H .. 160	
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South America

14 Mc.—	Points
---------	--------

CE3RE .. 252	
21 Mc.—	TI2TG .. 50

Oceania

Open—	Points	14 Mc.—	Points
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FK8AO .. 1206	FK8AC .. 119
	HK6IJ .. 531

PHONE SECTION

Europe

14 Mc.—	Points	14 Mc. (Cont.)—	Points
---------	--------	-----------------	--------

PI17 .. 147	SM5WL .. 48
PA0NU .. 48	SM6VY .. 1
ON1PN .. 2	F9RM .. 1

South America

14 Mc.—	Points	21 Mc.—	Points
---------	--------	---------	--------

YV5AP .. 5	TI2TG .. 15
HC1MB .. 270	

Asia

Open—	Points	14 Mc. (Cont.)—	Points
-------	--------	-----------------	--------

VS1EV .. 552	JA1AL .. 68
JA1CO .. 60	JA1FA .. 40
KA7RC .. 639	JA1KF .. 28
14 Mc.—	JA1CJ .. 24
JA2WB .. 162	JA1DM .. 4
JA8AA .. 147	VS1CZ .. 270

Oceania

14 Mc.—	Points
---------	--------

KR6CA .. 324	
VR3RJ .. 324	

India

14 Mc.—	Points
---------	--------

VU2RC .. 12	
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LISTENERS' SECTION

Austria

Points	Points
OE5-403 .. 455	
OE6-196 .. 253	
OE3-117 .. 160	
OE1-519 .. 45	

Sweden

Points	Points
SM5-2591 .. 24	

New Zealand

Points	Points
ZL-105 .. 1120	
R. W. Gray (ZL3) .. 2418	

Australia

Points	Points
N. L. Dash (VK2) .. 2212	
BERS-193 .. 1048	

CHECK LOGS

Check logs were received from GI4RY, G69, and K6AFH.

New South Wales North Coast Floods, 1954

Amateurs on the North Coast of N.S.W. have on a number of occasions since 1949, provided communication during floods when normal circuits have failed due to flood damage to the telephone and telegraph lines. They have been instrumental in providing links to the outside to arrange relief for communities in distress and supply the first news of devastation and loss of life.

In February of this year they recorded their greatest achievement when Radio Amateurs in a wide-spread operation performed the most extensive emergency net working ever recorded in the Commonwealth.

The damaged area extended from the Queensland border south to Newcastle, a distance of over 350 miles. Twenty-three lives were lost and damage will cost many millions of pounds to repair.

Stations from many locations in the stricken area operated for periods from 4 p.m. on Saturday, 20th February, to 10 p.m., Tuesday, 23rd February.

Amateurs relayed the first information of devastation and requests for relief from five centres that were extensively damaged—Tweed Heads, Murwillumbah, Casino, Lismore and Kyogle. Some stations were active for longer periods relaying messages from "ducks" providing relief in the area.

The whole operation reflected great credit on the operators participating, and the hobby in general, and authorities within Australia and New Zealand co-operated with Amateur Stations to ensure the effective operation of the nets.

The whole operation was so extensive and so many channels were in use at different times that it was difficult to obtain a complete story of the proceedings.

Traffic was handled mainly on the 7 Mc. band by day, and the 3.5 Mc. band by night, from the flooded areas via the W.L.A. Emergency Net and VK2WI and to various other Amateurs in Sydney and Newcastle.

One net ran practically continuously on 7002 Kc. handling traffic to and from VK2AA—official P.M.G. station—at Middle Head, Sydney. The G.P.O. emergency frequency of 5390 Kc. was also in use.

A considerable amount of traffic handled was passed cross-band from 3.5 and 7 Mc. to 6915 and 3252 Kc., the N.S.W. Police Department's emergency frequencies and VKG Sydney and VKG3 Newcastle. In other cases Amateurs operated exclusively on these Police frequencies in areas where suitable xtals had been left with the local Police authorities.

Propagation conditions during the operation were poor and skip caused interference at times. The low level of static on 3.5 Mc. during the evenings did assist the net operation.

Stations operating from the affected areas included Bill Campbell VK2ZY, Norm Carpenter VK2RK, Murwillumbah; Steve Grimley VK2VK, Tweed Heads; Charlie Miller VK2ADE, Ron Martin VK2AHI, Casino; Allan Simpson VK2ASO, Kyogle; Dr. Tom Hewitt VK2LH, Lismore; Roy Berry VK2NY, Peter Rudder VK2TB, Terry Spence VK2AJS, Bill Allwork VK2OE, Bob

Wilkins VK2WQ, Geoff Switzer VK2SR, of Grafton; Jack Gerard VK2ADN, Bill Grant VK2AWG, Coffs Harbour; Noel Hansen VK2AHH, Kempsey; Peter Alexander VK2PA, Port Macquarie; Bill Eagling VK2AEY, Taree; Alex Goldie VK2TG, Bellingen; and Crieff Retallack VK2XO, Raleigh. Some of the above stations operated for long periods, others were forced off the air by floods, while the unfortunate few were so badly flooded that they could not operate at any period.

Messages were handled for dozens of public utilities, while most of the traffic covered Police messages, P.M.G. telegrams, and Press.

The operation commenced at 4 p.m. on Saturday when VK2ADE, of Casino, opened on 7 Mc. requesting a link with Sydney as normal communications were affected.

For some hours previously Amateurs on the North Coast were heard checking their equipment as it was anticipated that official circuits would be affected.

The request was relayed to VK2WI by telephone by Graham Hall VK2AGH and Andy Kerr VK2AX. Jim Corbin VK2YC then opened VK2WI, official W.I.A. station, to provide the Sydney link for clearing traffic. Soon afterwards VK2LH, of Lismore, joined the Net as normal communication to the town had been disrupted.

BY WM. MOORE, VK2HZ

Syd Smith VK2APS, of Tamworth, also opened as Police Headquarters for the flooded area is located in that town. These stations assisted by others, at one stage ZL2HV, handled many graphic and important messages.

The frequency was changed to the 3.5 Mc. band in the evening and Dr. Alex Dan VK2ABU took over the operation of VK2WI assisted by State President VK2YC.

At 11 p.m. VK2LH lost the local power and as he had lent his mobile equipment to Alf Webb VK2UC, to use in another part of Lismore, he was forced to close. During the many blackouts experienced during the evening traffic from Lismore was diverted to Casino by telephone and relayed by VK2ADE.

At 2 a.m. Sunday the city end of the Casino link was taken over by Police Station VKG. VK2ADE operated on Police frequencies at one period but later returned to the Amateur bands.

On Police frequencies were also Port Macquarie and West Kempsey. These stations were in fact Peter Alexander VK2PA and Noel Hansen VK2AHH, the North Coast W.I.A. Zone Officer of Kempsey. They were using their own Amateur equipment on Police frequencies and covering vital points.

VK2PA was assisted at times by Lew Smith VK2AWS.

On the Sunday morning activity increased on the Amateur bands. At one stage three channels—7002, 7020 and 7050 Kc.—were in use. VK2AJS, of Grafton, was active passing important railway traffic via VK2AYP in Sydney, later he handled some P.M.G. traffic.

Also operating from Grafton at various times were VK2NY, VK2OE, VK2TB, VK2SR and VK2WQ, but power failures were frequent in the town and VK2NY's and VK2TB's homes were flooded.

VK2AA, official P.M.G. station at Middle Head, was busy on 7002 Kc. directing telegrams to VK2AHI, at Casino, who operated up to 20 hours per day taking and relaying traffic. At one stage when power failed he operated using batteries.

VK2XO from Raleigh was badly flooded but was active with 2 watts to a Type A Mk. III, and handled traffic to Sydney. At one stage he was reported to be pushing a bull away from the verandah

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with a broom. The bull was swimming around the house.

In Bellingen, VK2TG was transmitting at times but lost the town power supply early in the operation. He and Percy Sara VK2QV then placed a No. 11 on the band.

From Coff's Harbour VK2ADN and VK2AWG appeared at various intervals, as did "Dorrigo," the latter transmitting messages to VK2ASJ in Newcastle for relay to VKG3.

Ballina was represented by "VK2N" an operator who obtained a transmitter from some local authority and operated it on Police and Amateur frequencies. Before closing he transmitted a message of congratulations to the W.I.A. Emergency Net for the assistance rendered.

The first news of the devastation in Murwillumbah was transmitted by VK2RK, the town had been cut off of communication with the outside for 18 hours. Norm passed press to Max Sobels VK2OT of Newcastle who brought a reporter to the shack from a Newcastle paper. Later he handled considerable traffic from VK2AA. Previously VK2ZY of Murwillumbah was also active but was isolated from the town proper by flood waters. He was operating with six inches of water over the shack floor.

VK2VK transmitted the first news of Tweed Head's damage in a press message to VK2AGH in Sydney. It was the initial information supplied from that town.

VK2LH of Lismore was again active on the Sunday evening but his medical duties did not permit any extensive operating.

From Kyogle first information was broadcast on the Monday by VK2ASO, who also handled a large number of P.M.G. telegrams.

VK2AEY of Taree, at the farthest point south, was active on both Amateur bands and Police frequencies.

VK2PA was also operating on Amateur bands and directed weather information via VK2EL Sydney for relay.

Valuable work was performed by many stations in keeping the emergency frequencies clear.

In New Zealand this work was performed on the 3.5 Mc. band by the N.Z. A.R.T. Emergency Corps, after an official request was made to monitoring station ZL4OA. Jim Edge VK2AJO was also officially requested to act as guard station in view of his excellent signal on the 3.5 Mc. band.

The last net operating VK2ADE/VK2APS/VKG was officially closed at 2200 hours on the Tuesday, when VK2AJO relayed from VKG to the two N.Z. guard stations then operating, ZL2IJ and ZL3JT, a message to the N.Z.A.R.T. from the Police Department thanking them for their assistance in keeping 3725 Kc. clear.

Chas VK2ADE then, as he termed it, "pulled the big switch," after nearly 78 hours of continuous emergency working, a fine record of public service.

Although it is difficult to differentiate between the valuable working of so many stations, it is felt special mention should be made of the service rendered by Chas Miller VK2ADE and Ron Martin VK2AHI, of Casino; Tom Hewitt VK2LH, of Lismore; Steve Grimsley

VK2VK, of Tweed Meads; Norm Carpenter VK2RK, of Murwillumbah, and Stan Simpson VK2ASO, of Kyogle, who all handled considerable traffic from the worst affected area.

As mentioned previously, many stations assisted, it was impossible to record all calls, but some stations heard were as follows: VKs 2AVG, 2WT, 2AX, 2AGH, 2ACP, 2AJO, 2AQH, 2AQ, 3BH, 3TO, 2PQ, 2ARG, 2ZX. Assistants in the various shacks played an important part in some cases. Police officials were continuously on duty.

Several valuable lessons were learnt from the operation. One was the need for transmitters to be flexible enough to operate on any possible frequency, on or around the 3.5 and 7 Mc. bands. Another was the need to limit the degree of final relay of messages, too many listeners were telephoning messages heard and causing confusion. Messages should only be relayed if they are directed to stations and then by the station concerned.

If the message heard is in the form of a general broadcast, then, and only then, should action be taken.

Publicity for the work of Radio Amateurs in the emergency was very limited in the daily press.

A.B.C. and Commercial Broadcasting Stations did mention the efforts in their news sections.

The A.B.C. presented an excellent review of the nets' operation on the following Saturday.

The work of the North Coast Amateurs in this emergency can be added to the already long list of public service rendered by Radio Amateurs in this country, and operators throughout the Commonwealth congratulate them on a job well done.

OLD-TIMER PASSES

During the winter of 1932-33, Radio Amateur K7UT, in Alaska, was in contact with another Amateur in New Zealand. Unnoticed by K7UT, a small coke stove began to fill the room with deadly carbon monoxide gas fumes that insidiously and slowly dimmed his consciousness into lethargy, then torpor. The New Zealander, operating from a lonely lighthouse, was alarmed to notice the Alaskan's signals falter and finally stop. Sensing trouble he called, in a vain hope, for any other Amateur station that might be on the air in Alaska.

The fates were kind that night and he contacted another station, resulting in K7UT being found unconscious by the rescue party who arrived in time to save his life. The K7UT in that now famous episode was Clyde de Vinna (W6OJ), chief cinematographer with the M.G.M. motion picture expedition encamped in Alaska for the filming of "Eskimo," and whose death was announced recently in America.

His "White Shadows of the South Seas" secured an Academy Award for cinematography, and "Trader Horn," "Treasure Island," and "Eskimo" were outstanding films of the period that saw W6OJ "operating on location" under such call signs as FK6CR, FK6BAM and K7UT.

Several old-timers in VK will remember Clyde, and also it will serve to remind the new Hams that, believe it or not, Ham Radio in those days was as exciting and romantic as it is today—v.h.f. notwithstanding. Attention Gordon VK5XU. You beauty!

—VK5PS.



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DX ACTIVITY BY VK3AHH

DX HIGHLIGHTS

Mawson, base of the 1954 Australian Antarctic Expedition, has recently been established. Its Ham Radio representation by Bill Storer, VK1EG, can be expected soon.

ZD9AB is active on 14,310 Kc. on phone (thanks SATN).

Dave Laing, ZC3AB, will continue to operate from Christmas Island until April, 1954 (thanks BERS195).

It looks as if **Afghanistan** is offered with **YA1AA** on 14 Mc. phone (thanks ZAHH).

BAND CONDITIONS

3.5 Mc.: Short-path openings to Europe were observed around 1830-2000, while W-lans were workable between 0745 and 1302. In addition the Far East broke through around 0900-1102. Macquarie Island reported long-route conditions to Europe (0802) early in the month.

Chas IAC reports European signals via the long path, and **Pete ZFA** QSOed W7, W8, followed by Frank ZQL, who heard all W districts (except W1), K1, ZK1, KH8, K4K4D, VET, VP9BDA. Neville ZAHF, adds VETAKO and W2, while Lance ZXA listened to all W districts (except W8 and W9) and JA1CJ, Col ZLZ lists VK9OK* (Norfolk Island), ZK1BG and W2. On Admiralty Islands Frank BWZ managed to contact W7 and ZK1* in spite of the noise which must be pretty strong up there. **SAHH** worked VESJG*, a series of W2s in many districts and heard JA1CJ, VP9BDA, G6GN, S5SAQW plus other Europeans.

7 Mc.: During the month conditions were such that this band could well be called the present only reliable DX band. Signal strengths were often good to excellent from most parts of the globe. The best reports for South and Central America was from 0700 to 1200, while W/V/E conditions prevailed over the short path (0630-1600) with some long path break-throughs around 2000-2200. Europe and, occasionally, North Africa were well represented via both routes (S.P. 1900-2100 and L.P. 0700-0800). South and Central Africa were erratically audible around 2000-2100, with the Middle East from about 1300 to 1900. South

East Asia and the Far East could be contacted between 0900 and 1600.

During the month c.w. contacts with W-land, Pacific Islands, etc., 2FA reports FK8AE, followed by ZQL with LU, ON4, GW, V5BAS; and the SAHH results for ZFA, W1GV, Noel SZO QSOed JA1CB*, KP4CC, XE3AM, HL1AA*. Up comes Don 3ADI with a phone QSO John JA1CB. Also JA1CB, who is working on this band was Ray SATN: all W districts, KH8*, KG6*, KJ6* and VE*. Australia spoke to HP3FL and Les 4XJ listed DUTSV. This month's W.A. representative is David 6WT who QSOed HL1AA*, ZK1AB*, OQ0DZ*, ON4AD*, DL10A*, ZS5FL*, ZS5CH*, LZ1KAC*, HS1D*, KG6*, Col ILZ worked JZ0KFC*, VP5SC* (1200z), G5R1*, G4DCU*, K8P*, VP5C*, KR8AA*, S5SDW*, 45TNG*, HL1AA*, VR3D, EK8P and heard KR8AZ, DUTSV, T1ZTQ, V51YN, LUS, JA5. 9WZ reports HL1AA*, and Alan 9TY keyed with V5ASX*, Eric BERS195 heard DUTSV, KR8, KC8AA, KG6, VQ4AQ, V8E, VU2CS, ZC4RX, 4X4GD and Europeans. **SAHH** logged a number of Gr, CQ2WD*, CQ4A*, CT1D, VR3D, ON4UT*, and PY9CK, DUNL, ZK2SC XE2LA. 14 Mc. This band displayed poor conditions to various continents. The majority of reports emphasises its eccentricity during February. Europe broke through between 1000 and 1500, and North America was workable between 4300 and 0800 (short route) and around 1800-2200 (long path). During 0400-0700 14 Mc. opened erratically to Africa. Times for sporadic conditions to South America were 0330-0500z and around 2200z.

QSOs with North America and the Pacific Islands being commonplace, this month's activity is shown by:

On C.W.: 2FA worked JZ0KFC*, KC8AA*, KA/JA*, V52*, KR8*, and 2AHH adds G1FL, F4*, F8B4D, KR8*, G4*, ZS1BE OH*, C8A9A*, PA2*, ODSLK*, LZ2KAC*, VU2*, 2A4F heard OQ5VN, followed by Bud 2AQJ (ex-ABRP) with JZ4KFC*, S5T*, F4*, F8*, DL4*, V51*, VU3JG*, KR8*, ON4QX*, DU1CV*, YU*, Alan 3CX reports MP4BBI*, KV4s*, DUTSV*, HS1D*, KG6*, VR3D*, ZC4GF*, a series of Europeans and ZSs. ZK1BI, Alan 3BK logged VR3D, F8*, O1S*, LA*, Den FRET, P12AQ*, ZSs*, HB* and OY3G. Ken 3KR keyed with 45TNG*, O1P*, G4VZ, 3N DL4*, 4X4FW*, F8*, while ZXA adds VR8AE* and Europeans*. Mac 3ADM mentions HS1D*, H4*, ZK1BI*, FK8AE*, V52*, G4*, DU1CV*, who QSOed by Dave 3ADW. Ray SATN helps out with OK*, DL*, G4*, SM*, HB*, ZS*, ON*, and Syd 48E/M lists G4*, SM*, OH*, SP*, OK*, EA*, PA*, and 4XJ reports JZ0KFC*, ZBJU*, and the more common ones. John 5HI keyed with ZS*, OK*, KA*, HS1D*, VP9BDA*, long path YU*, ZK1BI*, 45TNG*, OZ*, followed by Rob 5EG: DL*, JA*, KR8*, F1RAE*, and Ray 5RK: OK*, G4*, V5S*, KR8*, ILZ's log shows F1RAE*, HS1D, F8B4D, 9WZ, V1JAS, ZS*, LU*, Y1*, SUI*, ODS*, VU2*, F8B*, SM*, G4*, BERS195 heard C2BHX, DU1J, ET2US, F1RAE, FK8E, HC1GF, ZS20D, ZS20D, ODS, VR3D, VR4AE, XZ2OM, ZK1BI, ZSs, VQ2DT.

On Phone: 2FA spoke to V51*, JA*, VR4AE* and 2AHH reports L*, F*, KR8*, DL*, OH*, 2AQJ adds KR8* and a series of KA's. Stan 3TE worked G4*, DL*, 3N, ZS*, ZK2ZK, HB*, F4*, KXEMZ*, KR8*, V8s*, VU2RC*, ZS2AP*, and Gerry 3AGQ contacted MDS0D*, DL4*, G4*, GW*, F1RAE*, F1AT*, ZK1BI*, XZ2KX*, MP4BBI*, AK4BT*, KLZ2Z*, and Ray SATN is the next in line with F1*, G4*, DL*, VK1GP*, CT*, KT*, ZS*, GM*, OQ0DZ*, F4*, K6G6G* (Bouin Island), HF1C, 4XJ then comes forward with VR4AE*, PY2AHS*, ZM8AA*, KR8*, KC8AG*, 45TNG*, Mac SCE presents a good list including AB1US* (Formosa), C3AR*, VR3C*, OZ13AA*, MP4BBI*, 45T*, ODS*, H21*, K6G6G*; while SM1 spoke to HC1TF*, VU2RC*, V8s*, VU2RC*, and TDE mentions G4*, DL*, SM*, G4DFRV*, MDS0D*, ZSs*.

21 Mc.: European openings (1000-1100z) early in the month were followed by a rather desultory band. The band demonstrated the usual unstable and erratic conditions. Times for the American continents were around 2000-0200z with the Far East and South East Asia between 2300 and 0600z.

Norm 3ALL heard VR3CB and said that 2BD worked K1R4 and W*. Quentin 3HM adds KR8OI*, KR8LJ*, CP5EK; and Percy 3PA reports ZC4RX*, DL1AP*, HB9LO, V51FE*, 11AU*, V56AE*, W* and HS1D. SATN spoke to

VR2*, KR8*, and 4TN mentions HC1FS*, CP5AB*, CP5EK*, HC1MB*, O4AC*, VR3CB*, HP3FL*.

27 and 28 Mc.: Rare openings to W-land and the Pacific Islands were the only ones reported for February.

Aub 2APE listed KJ6BA*, and heard two W3 stations (22/24) on 28 Mc. 2ALJ reports W3J1Y/MM*, and Les worked HP3FL* and heard W6VAD, W3J1Y/MM and KJ6BA.

GENERAL NEWS

The first Phone and C.W. sessions of the A.R.L.I. DX Competition have taken place during February. This very popular contest again brought many Hams out of their fox holes—at least showing "commercials" whom the hands belong to!

Although these notes are not the place for a detailed description of activity of VK2/VK4 Emergency Nets during the recent disastrous floods, we feel entitled to offer a word of appreciation for the excellent work our fellow Hams have done in the areas affected. Ham Radio has again been proved to be of invaluable assistance to the public in cases of emergency.

It is regretted that some water has been poured into what looked like a good DX drink.



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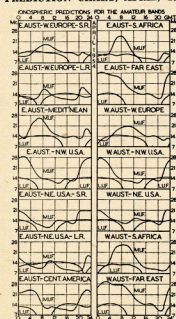
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PREDICTION CHART, APRIL, 1954



ZL3JA is at present not in a position to carry out his planned trip to Tokelau Island (see "A.R." 12/53). Nevertheless, Harold will keep the project in mind. Further details will be published in these notes as they become available.

VR3A is ex-VR3D. Ray's call sign has officially been changed as from 1/3/54. QSL cards may be sent directly to via VK3QHM (see "A.R." 3/54) (thanks SCX, 3OM). VR3AS is ex-GZBMU and ex-GCZBMU. LUREL is looking for VK contacts on 3.5 McJ around 6830-6900z (thanks ZL1C1). Chas IAC reports that he now is also active on 21 Mc. HSID operates 7, 14, 21 Mc. FBXKX represents Kerguelen Island (thank 2A0J, 2ATN). The operator is ex-FB4ZZ (1951-52).

Christmas Island has been kept on the map by Dave Laing ZC3AB, who is ex-VK4DL and ex-VK2DE. After arrival last year, Dave used ZC3AA. John Marsland's call sign, until his own call sign was issued, 3AB will leave Christmas Island in April, 1954, and will not return. His station uses 40 watts input to an 813, the modulator being another 815. A full-wave antenna serves a sky wire. Dave is officer-in-charge of the Island's communications as well as the commercial station VSM. All QSOs will be confirmed by QSL cards. (thanks BERS 195 for the above information).

QTH's of Interest:
ZC3AB—Dave Laing, Radio VSM, Christmas Island, via Malaya.
HL1AA—239 Chungilmdong, Seoul, South Korea.
HSID—M/Sgt. James D. Fry, M.A.A.G. Box "B", A.P.O. 14, C/o P.M. San Francisco, Calif., U.S.A.

ZK1BI—Ray Lowry, Rarotonga, Cook Islands.
KC0AA—Dick Hatcher, Radio Station, Yap Island, Western Caroline.
SUHS—Via WFTO.
S3ATR—Via W6FYB.
S3STU—Via W6PCS.

Rare QSLs arrived at 2AHR: SP2KAA, 4X4BR, S4ATG, XW8AA, 457KG, SCX: ET2NG, YK1AH: SATN: C8BAH, TFSTP, WZ2KM/MM; SC1E: ZC8SH, ZC3VH, 11RC, Trieste, KG4AO; GH: DUTSV, VU2BH, OQ5GN, FAS3V, CNRCS; TDZ: VK1HM, MP4AQ, MP4AK, BERS195; ZC3AB, FAS3V, 11BJJ/HE, KV4BB; 3AHH: HUE1T, FRA7, V83G (3.5 Mc).

This month's thanks go to s.w.l. BERS195 and VKs 1AC, 2PA, 3QL, 3AFE, 2AHH, 2ALJ, 2AMB, 2APL, 2AQJ, 3CK, 3IM, 3KH, 3KR, 3PA, 3TE, 3TX, 3ZA, 3ZO, 3ADI, 3ADNE, 3ADW, 3AGQ, 3ATN, 4SE/M, 4TN, 4XJ, 5CE, 5HL, 5RG, 5RK, 6WT, 7DZ, 7LZ, 9WZ, and 9YY. Good hunting till next month!

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The usual monthly meeting was held on 5th February, but owing to the fact that the date of the meeting coincided with that of the State Ball given in honour of Her Majesty, traffic conditions made attendance barely possible.

On 31st January the V.h.f. Group held their Country Field Day which was originally scheduled for October. Despite the very bad weather conditions in the early part of the day, the field. Furthest from Sydney was 2JW at Mt. Canobolas, 2AJZ was at Mt. Pittidrigon, 2HIL and 2ATO were at two different spots at the Summit, 2ANF went to Mt. Tomah, 2ABO went mobile to Mt. Grey but was unsuccessful and came back to Mt. Gibraltar, 3QW and 3OA went to local spots around Sydney. Complete scores are not yet available. However it would appear that 2AJZ made the greatest number of contacts by a station more than 50 miles from Sydney, and 2ANF, by working 3GU in Canberra, made the longest distance contact. During the evening the v.h.f. 2WI broadcast was made from Mt. Tomah on 144 Mc. by 2AFQ per medium of 2ANF/P picked up by 2AGY in Newcastle, relayed to the Newcastle area on 50 Mc. 2HE did the same thing for the Sydney area. Reports on the broadcast were received from as far west as Orange, thus giving the 2WI v.h.f. broadcast probably its largest coverage ever.

On 16th February the Group conducted a nocturnal hidden tx hunt within the confines of the metropolitan area. The tx was located at Black Charlie's Hill (near Bankstown Aerodrome). As was to be expected, first in was 2HIL. He was accompanied by Charlie 2NP. Second in was 2AJZ and 2AJA who advanced on foot, blazing a trail for 2WJ in the Holden. At various intervals five other parties arrived. 2HIL has bought 2AF's tower and Harry 2AJZ has bought the tower and beams sported by Jack Challenger. Roy 2HO has found it impossible to make any contacts from Hill 46 Holborn without his three-over-three at its customary height. Bill 2ABR is back on the air again after changing his QTH and came very close to sending out distress calls recently when the Georges River broke its bank and flowed under and around his shack. Arch 2GU, of Canberra, has now worked quite a number of the Sydney stations and is at present playing around with discriminators. 2ADT has migrated from Newcastle to Inverell ("half way between every-

where"). His move has left a gap in the Newcastle c.c. circuit. Newsworthy 2HOZ has been at least during the week days. Max having been transferred to the Technicol College at Peter-sham.

The first reported use of transistors among the v.h.f. population is by Con ZLZ. Con is using a pair of them in a two stage preamplifier in addition to his 6X4 tube stage. Reports that he could use r.f. feedback troubles—which were severe—by bypassing the input circuit. Quite a few of the v.h.f. shacks have been visited by Bob 3PU who has been voted by the Sydney gang a real v.h.f. man.

VICTORIA

Notes this month are compiled by the V.h.f. Group first emergency scribe, 3LN, due to the unavoidable absence of Jim 3BAC in temporary retirement while the new QTH is under construction, and Jim will be back as soon as the writing room has been completed. The February meeting took the form of a 288 Mc. tx and with the attendance of 14 April can be considered one of the most successful evenings for some time. 3IM brought in his 288 Mc. tx and described it in detail to the meeting. 3MB and 3PL gave descriptions of their gear on 288 Mc. 3LN spoke on co-axial lines for 144 and 288 Mc. r.f.s.

The first 1954 V.h.f. Field Day gave 3ADU at Altona, 3YS at Macedon, 3LN Kellor, 3VP Pretty Sally, and 3JO at Arthur's Seat, which were the winners of portables than the two previous occasions.

The February C.D.E.N. night, for the first time took the form of a "fox hunt". Two "bouds"—3YS and 3ADU—each had two catches of the "fox" car, 3LN. It proved extremely interesting and there were more starts for the March hunt. Keep this April available; it's the V.h.f. Field Day for April and all portables are very welcome to participate. It should be noted that 3ADU has changed his guns with 3MB, 3PL, 3ED, 3AG, 3ALY, 3YM, 3AFJ, 3ALK, 3ALH, 3AHC, 3ACF, 3ATK and 3ATK very active. 3EE and 3ALY have changed the 1954 plans for D.P. 1954 with considerable improvement in output; both stations are using eight half-waves in phase.

3ADU has just finished a 60 ft. tower at Macedon, a stacked array is to take pride of place on top. Ray 3ATN reports many excellent openings on 6 m to VK4 and reports 3BT at ST when mobile with an input of three-quarters of a watt—3LN.

SOUTH AUSTRALIA

I notice that "CQ" has reintroduced a better and more elaborate "V.h.f.-U.h.f. News." Along with the general jottings of Ham activities, the section now contains much useful technical information. The Cubical Quad receives honorable mention in January, 1954, issue—using the folded dipole technique with a double turn of No. 12 gauge copper and a reflector 8 inches behind it. According to the authority it "has excellent front-to-back ratio characteristics, which make it ideal for d.f. work on 2 m.x."

Hughie 5BC has his 16 element facing Adelaide, so far with gear from Tom 5TL. On Saturday, 27th February, Hughie 5BC and 5RO 6 m and having established contact, then changed over to 144 Mc. A report from 5RO indicated that a very weak carrier could be heard by both Col 5RO and Keith 5MT. About half an hour later, at 2130 hours, Bill 5HD appeared and, with much better signal (c.w. by the way), all this reported useful information at the River end, Hughie and Tom were trying with indifferent success to devise a means of "keying" the SCRSZ tx, finally resorting to the on/off switch! However, it was sufficient for identification purposes. During the same weekend, Hughie was able to confirm the contact by further efforts, but the best received from Adelaide was "carrier 54."

Tom remarks, "seemingly, therefore, Renmark is not such a good place for reception, with 10 watts and a bi-directional beam the Adelaide hills provide an excellent shield. Apparently there is a higher noise level than at 5RM and Tom thinks that he will have to be content with local working, not having yet been heard in Mildura. The Murray gang are rather puzzled about it, but the fact remains."

Further reports on triode stages on 144 Mc. indicate that a well designed r.f. stage using triodes still seems to give better results than the well known cascade providing that neutralisation is perfected. Capacitive neutralisation seems to be the most satisfactory method, and hence I should think that the double triode 636 type would be the best to use. Perhaps we can prevail on our Editor to reprint the interesting technical notes on this subject.

3RR proposing a trip into the ranges and is looking for VK3s, so folks get the portable gear ready for Mt. Lofy—5XU.



VK7WI STAND AT THE HOBART EXHIBITION

The three c.r.o. tubes on the right show respectively the carrier, the audio and the combined or modulated signal. The small cabinet in the centre of the desk is the tuning control and speech circuit to the receiving post over the 144 Mc. link. The HRO receives the 144 Mc. sig from receiving post via a crystal controlled converter. The c.r.o. on the desk is the transmitter monitor.

HAMS

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896-9	8,000, 10,000	2, 3.7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to V.C.	62/6
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
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FEDERAL, ISL, and DIVISIONAL NOTES

FEDERAL

MEXICO

The Liga Mexicana de Radio Experimentadores announces the availability of its "30P-50W" Diploma to any Amateur who submits satisfactory evidence of having worked in different countries using not more than 50 watts input to the final amplifier tube(s). Operation may be on any frequency allocated to Mexican Amateurs, and c.w., phone, or both may be used. Minimum signal reports allowed are R4 S3 for c.w. and RST 439 for c.w.

Amateurs in Mexico and elsewhere on the North American continent are required to send one card from Mexico and one from Mexico City, making a total of 32 cards necessary. Amateurs in other continents are required to submit only one card from Mexico. A letter from a local radio club attesting that the applicant has operated with not more than 50 watts input is required with each application of 30P-50W. Where no club exists, the local Amateurs may submit the certification. In cases where the nearest Amateurs reside more than 100 kilometers from the applicant, the applicant is permitted to sign a sworn statement that he has used no more than 50 watts.

Cards representing contacts with the 50 countries should be sent to L.M.R.E., A.C., Liverpool No. 195-A, Mexico 6, D.F. Mexican Amateurs must submit a card with their applications. Amateurs in other countries should send 50 cents, or equivalent L.R.C., for return postage for cards and certificates.

ITALY

An international convention on communications is being held in Italy as part of the country's celebrations in honour of Christopher Columbus. To tie in with the convention, the Columbian Institute of the City of Genoa has announced awards to be presented to Amateurs who, by 1st September, 1954, have made outstanding progress in the technical field and those who have provided the most exceptional public service.

Two gold medals and diplomas will be awarded to the Amateur who has worked with two Italian, who establish two-way communication at the greatest distance on v.h.f. and u.h.f. from questions. The 145 and 420 Mc. Amateur bands may be used.

For the purpose of compensating for propagation differences, to be taken into consideration, the records obtained on the two bands, the distance obtained on 420 Mc. will be multiplied by three. In case of equal distance reached by both bands, the one will be accorded to that obtained on the higher frequency.

Additionally, a gold medal and diploma will be presented to the Amateur who is judged to have rendered the most outstanding service for the safety of human lives or who will have given, in any way, proof of human solidarity. Furthermore, diplomas of honour will be issued to those who are judged second and third place winners.

The competition is open to all Radio Amateurs. Applications should be sent via registered mail to the Civico Istituto Colombiano, Sezione Comunicazioni, Piazza San Maurizio, Genoa, not later than September 1, 1954. Members of I.A.R.U. societies competing for the public award should apply directly to their I.A.R.U. societies.

AMATEUR'S DAY

The Radio Club de Chile suggests that it would be a fine idea to name an I.A.R.U. Amateur's Day. They comment, "The actual day could be any of the year, or some special day commemorating a great achievement by Amateurs. We think that possibly one of the following might be suitable:-

- (a) the day of the I.A.R.U.
- (b) date of the Atlantic City Conference.
- (c) Some other great milestone in Amateur radio history, such as the formation of a group of Amateurs."

The I.A.R.U. Headquarters believes it would be well to award some recognition to a group of member societies prior to placing this subject before the membership for action. If you have any comments, forward them to Federal Executive.

FEDERAL QSL BUREAU

RAY JONES, VK3RI, MANAGER

Cards from H.I.I.A.A. are dribbling through. Only QTH shown is: H. S. Chong, Seoul, Korea. He states under date of 13th February, 1954, "The Korean Ham Radio has begun firstly

since we have been independent and it is expected to be developed in the future."

The following from the Radio Club of Chile: "Jorge Bernain, CE3DG, left Valparaiso on Saturday, 30th January, on the S.S. "Princeda" Chilian Naval transport, for Easter Island. Jorge will there install station CE3AG for Dr. Dario Verdugo, who will remain on the island for a year. This 40-watt station with a 576 rx will preferably be used on phone on approx. 14100 Kc. Another station will be installed by CE3DG on Easter Island for the Chilean Air Force. It will be a BC10 which will mainly be used for meteorological reports and its operators will also work on Amateur bands as CE3AD and CE3AF, and phone. All QSLs to be sent to Box 761, Santiago, Chile." If any station worked CE3AA they will have worked with Jorge, while making the installations.

Harry ZL4JA had a fine eight weeks tour of VK2, 3, 4 and 5 during the eight weeks ending 18th February. Harry made many Ham visits in the above districts.

The new QTH of the VET QSL Bureau is: Henry R. Hough, VETHR, 2316 Trent Street, Victoria, B.C., Canada.

My old reliable correspondent Treb of BERS 106, informed me that the Swedish call book contains full data on licensees, as does the new Jap call book, mentioned in these notes. The Swedish publication is 1954, and the Japanese one is 1953. Any station dipping out on a QSL from ZM6AF should write to Percy Rivers, 41 Wellington Street, Kensington, N.W.2, and phone. All few blank ZM6AF cards left. Eric Handley, CP1AT, advises that he is not the original CP1AT and has been listed since 1950. He will not recognise any claims for QSOs prior to that year.

At the end of 1953 there were 12 licensed ZL stations: ZL1KAB, ZL1KAC, ZL1KDD, ZL1KNI, ZL1KPR, ZL1KSA, ZL1KSI, ZL1KSP, ZL1KSK. All others are pirates. There are no licensed Albanian Amateurs and no organisation of any kind exists.

Roy Baxter, VK4FJ, and G. Cairns, VK4CF, grazed Mt. Bourke in the Blue Mountains on the week-end, and 9th March. Both are members of the touring Brisbane City Temple Salient, Brisbane, and the latter is a 2nd class, first-class combination, will, after leaving Melbourne, visit Ballarat, Geelong, Mt. Gambier, Adelaide, Melbourne, and Albany. The band flew from Brisbane to Melbourne, travelled by motor coach to the other places mentioned and will return by train from Albany to Brisbane on the 21st. The tour is being organised by VK4FJ. While in Melbourne and other Hams, Roy will endeavour to contact as many Hams as possible and to make a QSO with as many as he is accompanied by his XYL and two juniors.

SILENT KEY

It is with deep regret that we record the passing of:-

Ex-VK7CS. Cecil Scott, died February, 1954.

NEW SOUTH WALES

The January meeting of the N.S.W. Division consisted of a lecture by Vaughan Wilson, 2VW, on suggestions for the design of a High Frequency Receiver for Amateur use. At the February meeting, Vaughan answered questions and three other members—Hans 2AOU, Norm (an ex-GI), and Bob 2OA, put forward their pet ideas on opposition to the 2VW proposal. This was a most interesting night and 70 members present lent a great deal about receivers. Hans 2AOU and Bob 2OA "A.R." have acquired one very thoroughly versed in receivers and other aspects of Ham Radio. VK2s are looked forward to with interest.

Any blame attached to late arrival of the VK2 notes for February lies squarely on the shoulders of the Hon. Editor, one Tom Hogan, and one Roger, who must share Tom's blame: you know, "better or for worse." They arrived at the N.S.W. President's QTH in time to do the washing up. VK5 scribe please note, 21st February, him YL para. to read afterwards. VK3, we can assure you Mr. and Mrs. 3HX successfully defended Victoria against all comers and very enjoyable night was held at 2YC's. If only we had known you were coming Tom, what an opportunity missed. 2YC reckons Tom trained at 3H3's, his reprieve on

VK2 was so good. At the time of writing, the two of them are "in smoke" again—or lost in the wilds of Victoria—was Tom, looking so very f.b. Who's next on "A.R." to come to VK2? "We send 'em back alive."

WESTERN SUBURBS

Recently I blamed square dancing for the silence emanating from 2AGG, but it since appears that the YL is the cause. It seems that Shirley, please let him go on the air. Now this time the YL drops up again. It seems one of the boys has been deserting Shirley, far, far away. Sleep tight Kenneth.

The new Ham in Concord is Phil 2AQO, who has been heard on three hands so far. Alan 8YY (ex-2AIR, of Enfield) you may be interested to know has shifted into a new house at Lee and now operates a ground plane. Tom 2HX has moved from Five Docks to Ryde. 2QL has now settled down somewhere in the area but don't know where. He was at Homebush but I think he has since moved as his signal is a lot weaker.

HUNTER BRANCH

The Hunter Branch monthly meeting was held on 12th February with 15 members and two guests in attendance. Johnny 2DZ chaired the meeting and Varley 2SF presided. The last time as Varley will not be standing for re-election at the Annual General Meeting in March.

Max 2OT, who has been acting as Class Manager for the Branch, in conjunction with a class he had organised, was followed by Technical College, asked if a successor had been found. After much deliberation, the Branch decided to recommend the College authorities that it deeply regretted being unable to supply a teacher to carry on the Radio Class at the College.

The lecturer for the night was Chris Cowan, 2PZ, who lectured on "The Latest Developments in Class B Amplifiers. The number of questions asked during the lecture was so large that I decided the great interest with which the members followed the lecture. A vote of thanks to the lecturer was moved by George 2AGD and seconded by Harold 2AHA.

On Saturday, 13/2/54 a number of the Branch members were present to follow a tour for the National Field Day. These included Harold 2AHA, Ernie 2PF, Norm 2ANA, Neil 2XV, and Ron 2AGD. The tour was led by Rodney Prout. The place selected for the operation of the portable tx was an old concrete block house, originally housing radar equipment, situated on the edge of the field.

On Sunday, Harold 2AHA and Ernie 2PF were chief ops, but during the course of the day various members of the Branch made a trip up the hill to lend a hand, if necessary. Amongst these were Bill 2XT, Max 2OT, Norm 2ANA, George 2AGD, Les 2AOR and Leo 2QB. The results obtained in the Field Day were considered satisfactory, especially when Ron "Golden Voice" Stewart, 2ASJ, broke his silence on the air and had a QSO with the boys. We all hope it won't be long now, Ron, before we hear you regularly.

Activity on the 10m bands in the Hunter District has been very low lately. Bill 2AXM, a regular on 7 Mc., hasn't been heard lately. Neil 2XV and Charlie 2ARV work some DX on 7 Mc. c.w. and 2VW has been heard on 20B heard on 7 Mc. occasionally and has popped back on 144 Mc. using 3 over 3 beam and putting out a 2 or 3 g for 2VW. 2VW has used his "dop over" beam to advantage on 20 mc.

Steve 2PA called on Ron 2ASJ and was very interested in his responder v.h.f. tx. Max 2OT received some publicity in the local press for his efforts in the Hunter District. The 2OT is near North Coast, flooding. Now that Jack 2ADT has been transferred to Inverell, it looks like the 2OT will have to come up to 7 Mc. The distance is 140 miles, for 144 MAF. Dave Associate Jack Hamilton was successful in winning £200 on a recent Commercial Radio program and his intention is to buy a radio gram to give to the crippled children. A very fine gesture, Jack, please accept our heartfelt congratulations.

SOUTH WESTERN ZONE

Stewart 3PL at Griffith reports that two members of the Griffith Radio Club were successful at the last exam, in passing the theory and regulations, namely, Evan Savage and Ted Drury. The Griffith Radio Club has been a real deal of activity in the zone lately. 2AFZ at Leeton is heard now and then; have not heard the Tumut boys for weeks. Lyn 2AQE at

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MIC.3-5	" "	" " " " " "	12db " " " "	Mervyn	1 19 3
MIC.3-6	" "	" " " " " "	5db " " " "	Myrtle	1 19 3

MIC. 6 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.6-4	General Purpose	2 1-32in dia. x 19-32 thick	20db Peak at 2250 C.P.S.	Margie	£1 19 3
MIC.6-6	" "	" " " " " "	5db " " " "	Maudie	1 19 3
MIC.6-11	" "	" " " " " "	12db " " " "	Mandy	1 19 3

MIC. 14 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.14-5	General Purpose	1 7-16in dia. x 11-32in thick	20db Peak at 3500 C.P.S.	Maxie	£1 19 6
MIC.14-11	" "	" " " " " "	12db " " " "	Mitchell	1 19 6
MIC.14-12	" "	" " " " " "	5db " " " "	Malcolm	1 19 6
MIC.15	Hearing Aid	0.9in dia. x 0.155in thick	30db " " 3000 "	Marlene	1 19 6
MIC.17	" "	15-16 in sq. x 7-32in thick	30db " " 3500 "	Maggie	1 19 6
MIC.18	General Purpose	1 7-16 in dia. x 9-32in thick	20db " " " "	Maisie	1 19 6

MIC. 23 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.23	General Purpose	1 3-16 sq. x ¼in thick	20db Peak at 3000 C.P.S.	Maureen	£1 19 3
MIC.23-3	" "	" " " " " "	5db " " " "	Margaret	1 19 3
MIC.23-4	" "	" " " " " "	12db " " " "	Milton	1 19 3
MIC.32	High Quality	1 13-16 dia. x 9-16in thick	" " " " " "	Martin	2 15 6

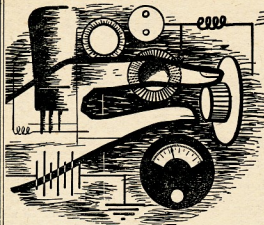
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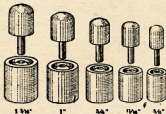
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their lecture was "Radio-Sonde," together with plenty of working models and illustrations of all equipment at present in use in the Soviet Union. It was obvious that they knew their subject perfectly and were thus able to talk to members in the language that was most understandable to them. At the end of the lecture arrived far too soon for their interested listeners. The various bits of equipment were examined, and the sonde, which were passed around to members, were the cause of much interested comment, and the speaker was asked to give a review of the talk that all tubes in the display were duds, it goes without saying that all returned to the speaker by a completely correct question that clearly indicated just how much interest the lecture had aroused in the minds of all present. Brian H.A. proposed the vote of thanks that was presented and the opinions from the members showed their agreement with his well chosen remarks. A tape recording of the lecture was made and the speakers, Gordon SXU and Hal SAW took the tape recorder out to Paraflex and recorded all that was said, and the tape was then put in balloons, with the result that this detailed and comprehensive recording is available for consultation.

heads of the leader of the soil and his wife, well, I need I say more. You would both probably be in the thick of it.

SKW was expected on the air are this, but the text proved unsatisfactory under tests and was dropped. The text was not good. These notes will be sunk; here's hoping that the modifications need modifying. SKO is expected to be on the air. SKO is expected to be on the air. SKO is expected to be on the air.

future, if only testing. Alex being the first and only Ham ever to be in London need not worry about the future. Alex being the first and only Ham ever to be in London need not worry about the future. Alex being the first and only Ham ever to be in London need not worry about the future.

what it is when they hear it; maybe SCF has what is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll.

the Colombo plan to observe and absorb. He is a Fennell vision at his place of toll. He is a Fennell vision at his place of toll. He is a Fennell vision at his place of toll. He is a Fennell vision at his place of toll.

formative on matters concerning his country. It is not known just how much of the language is a Fennell vision at his place of toll. It is not known just how much of the language is a Fennell vision at his place of toll. It is not known just how much of the language is a Fennell vision at his place of toll.

should not prove too hard.

STL has by popular "duck-shoveling" been applied to the text. The text is a Fennell vision at his place of toll. The text is a Fennell vision at his place of toll. The text is a Fennell vision at his place of toll. The text is a Fennell vision at his place of toll.

twelve months. Tom, you will never get rid of the job. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll.

old, but if you do a good job anything, everything remains satisfied and never suggests a change. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll. It is a Fennell vision at his place of toll.

and want a change, but are too busy criticising to find time to have to go themselves. Two

take any further cat-naps underneath his umbrella. You beaut!!

SOUTH EAST AREAS

Eight members plus the committee of the above club met at a general meeting this month and just prior to the meeting the worthy President, Len 50C, contacted a KA2 and the Patron of the Club had the unexpected pleasure of having a chat with some real live DX.

UPPER MURRAY AREAS

No reports of any damage to Ham shacks, etc., have been received as yet from the earthquake that hit Adelaide and suburbs on Monday morning, 1st March, at 3.40 a.m. It was quite an experience to visit the office at that time, but it was not repeated. Whilst it was generally admitted that something would happen when the earthquake struck, but it was not expected to be so severe. The earthquake on 13th February, nobody in their widest imagination expected such an upset. The ex-President was as surprised as anybody else. The state of affairs was such that it trembled the most, the house, his wife, or himself! He has been looking a little white about the gills since it happened.

WESTERN AUSTRALIA

In view of the Easter holidays, the Annual General Meeting will be held on 27th April. Quite QSL Bureau has had a very successful year, and it has been decided to halve the cost of cards to overseas destinations: i.e. one sticker instead of two.

The March meeting was held on 16th and consisted of a lecture and demonstration of Fire Brigade Mobile Equipment, and was held at the Perth Technical College. An outline will be available for the next issue.

The allocation of overseas stations in Amateur bands adversely affects Amateur activity, and the more success is achieved, the less jurisdiction over such frequency assignments. Any allocation of a frequency within the Amateur bands in Australia, assigned to the Amateur activity should be viewed by the Institute and all similar bodies with alarm. When stations are allocated to the log and sub-log, overseas commercial stations working in the Amateur bands it would be ironical if Australian authorities granted licences to other than Amateur stations in these same bands.

The Perth Technical College has instituted T.V. classes for a two-hour weekly course covers the first year of the first year of the course to T.V. and the second year to circuitry, service, etc., of receivers and transmitters. The fee is nominal and classes were to start early in March.

The Radio Society of Western Australia has instituted the A.O.C.P. Classes with a paid instruction of 10 to 15 hours, and a class of 15. As the W.I.A. rely on the Radio Society to conduct such classes, every assistance should be given to the Radio Society. The inception of the original club, i.e. The Subiaco Radio Society, provided the only classes in W.A. at the time. The W.I.A. have a room for both radio bodies in W.A. to conduct classes and it has been done (with little thanks I am afraid) for the W.I.A. to provide the room. The members of the Radio Society are members of the W.I.A. and many old hands received their A.O.C.P. through the efforts of that Society.

We hear that 2BN has paid a visit to VK6. Eastern States visitors are always welcome in VK6, so do not make your presence known the day you leave for home. Let us give our red carpet an airing, so advise of your visit in advance.

GDW is on a visit to the big city. I hear he has a cold and lost most of his voice. What a calamity! It is in the hands of the gods. The recent rough weather has found the weak spots of beams, masts, etc., and it is quite often one hears a casual remark that indicates a catastrophe is not yet repaired.

In the absence of 60H, the W.I.A. news session has been covered by 6WT. Dave takes the news and the discussion is handled by 6WT. The typical 6WT style puts over the news, with a pleasant smoothness, and a good grip of the subject matter. As usual, the transmission is reliable to be re-transmitted on 14.4 and 3.5 Mc. Only by use of the three frequencies can all members in W.A. within a radius of 500 miles hear the news. We have a few members away in the Northwest and Kimberley who are outside the scope at present. Perhaps 14 Mc. would be the only means.

TASMANIA

The March general meeting was held in the Club Rooms on Wednesday, 3rd, and was fairly well attended. Owing to the absence of both the President and Secretary, Vice-President, Bob O'May occupied the chair, assisted by Joe Brown as acting Secretary. Lecture for the evening was a description of the reception of the 1944 set-up as used at the recent Science Exhibition.

An attempt was made to get some idea of the number of southern members who would be able to attend the Annual General Meeting which is being held this year at the Northern Zone headquarters. The response was not all that high, but it was expected that it was that a number of members who were absent would be going along. This is the first time

that the Annual Meeting has been held away from Hobart and it is hoped that the experiment will be a success—time will tell.

I must apologise for the absence of Divisional Notes in the March issue. My only excuse being loss of memory brought on by an acute attack of Royal touristism—when I finally did remember the date of the meeting past, so I'll try to make up for it this month.

I passed a very pleasant evening in the TLZ shack recently, with the conversation ranging from politics to the radio. The evening was made a number of VK3 contacts on 30 Mc., making his v.h.f. log book very pretty and Col very pleased. I made a number of contacts, one of the contacts in the person of 3XCM who was very busy playing about with picture-taking during the Royal tour. I made a number of contacts as Col, as it seems that VK7 contacts on 30 Mc. are rather scarce.

The Royal tour has given up radio and sold up all the gear is unfortunately quite correct, although I think the bug is only lying dormant. When I dropped in on him recently he was busy shinning up a magnificent Jaguar Mark VII—watch out Launceston, she will be run in by the Annual Meeting.

Repeater communications have been supplied again this year by the Institute, operators being Don TKX, Don TSD, "Ack" TDA, and the frequency used this year was 14.4 Mc. in the 2 mhz band which proved much more successful than the lower frequencies used previously.

The partition across the end of the club room has now been completed, thus forming a fine room for the club. The partition is intended to hold working benches shortly to include cupboards and the completing of the tx is in the capable hands of TBJ.

The wheels are turning to produce something really good in the way of QSL cards to send to stations contacting TWI at the Exhibition. By the time these notes appear in print the cards should be ready for distribution.

Great fun and games are being had by the Northern Zone. The next year's tx hunt as next hunt to be held will be a night time affair which seems to me to be an excellent idea. This is something that in the heart could well copy. Len TBJ is a family in Borneo, and to see the Queen. He tells me that things are very quiet in Queenstown although TBR expects to be on the air soon. TBJ has acquired an Edystone "680" rx and now has a formidable stack of parts after wrecking the old set-up. I believe that an interesting afternoon was had by Len and Athol TAJ aligning the new set.

This month's notes close on a sad note with the passing of old timer TCS, Cecil Scott, who died late in 1944. Cecil was a long time member of the Institute in Tasmania when it was incorporated in Launceston in 1935. He was active in the radio community and was probably be remembered mostly for his work during the floods of 1929 and his Sunday morning broadcasts on 200 mhz in Hobart.

NORTHERN ZONE

Since Xmas there has been a monthly tx hunt on 14.4 Mc. Two beings held on Sunday afternoons, and one in the evening. The first held in January proved to be a difficult one to find and was located at Relbia, several miles outside Launceston. Those who were present were TXW and Geoff Crompton. TXW dressed in naval attire and to complete the disguise borrowed a pair of diving goggles. Those in the hunt were TBQ, TRK, TPF, TGM and TCA, also Ron Rich and friend—the latter, last mentioned but not least, was a regular at home. Ron's XYL contributed a great deal to the success too, we believe. The next two in the series were held on 14.4 Mc. and 3.5 Mc.

February's hunt proved too tough for all concerned, although Chris TXW had a hard time explaining why a piece of cab tyre was buried in an underground cable to a "battery charger."

March's hunt was held in the evening and this time he believes TGM, with noted up rx gained the honour.

TE has joined the ranks of the P.M.G.'s. Dept. TLZ has just been again in the trap to Midbourne, whilst TBQ has purchased a new rx from TKB who is "giving the game away"—only for a while we hope lan.

...

CORRESPONDENCE

50 Mc. DX REPORT

43 Yanko Ave., Waverley, N.S.W.

Editor "A.R."

Dear Sir,
A report has reached me today, after a period of six years. This card comes, via U.S.A. direct to my address, from one Dimitri Silbrsky, 69 Gladstone Street, Sofia, Bulgaria, an "Iron

Curtain" country. It has evidently been handed by an American intermediary, the postmark being Proctorville, Ohio, dated 30th January, 1954.

The Bulgarian's report says, "Receiving report from the countries of progress to radio VK200. Tax fee up 50 Mc. v.h.f. tax set on 8th May, 1947, at 1715 GMT. RST: v.h.f. 1b. Receiver 0-V-1. LZ Sniper antenna folded and Windom."

Looking up my log of 50 Mc. activity at that period, I find that at 8 p.m. on 7th May, 1947, I called CQ DX on 50.4 Mc. c.w. This does not check with the Bulgarian's report of reception, but I am wondering? Evidently it has taken all this time to get the card to me and in view of the intense world-wide activity on 50 Mc. at that time, it would be both to push pooh the report. There seems to be no reason why it should not be genuine, especially as I have been completely inactive on v.h.f.s. since the end of 1948.

I have also, vivid memories of that classical instance when my 50 Mc. phone was reported accurately from North Wales in the 1950's. It was never disproved although there were people in U.K. who decried the report, saying that the phone concerned a Mr. Meliani, who could not have received me because he "only had a super-regenerative receiver!" We certainly never heard from him again. At that time, upon enquiry, the U.S. Bureau of Standards advised me that ionospheric conditions were such that multiple-hop reflections would occur.

Maybe this Bulgarian got his times mixed. His report certainly comes as a belated surprise.

—DON B. KNOCK, VK2NO.

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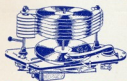
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